

REMARKS

Status of the Application

Prior to entry of this Amendment, claims 1, 3, 4 and 17, 20, 22- 23 were pending and under consideration. With this Amendment, Claims 17 and 20 are canceled and Claims 21 is withdrawn as being drawn to non-elected subject matter. No claims are currently amended. Applicants reserved the right to file further continuation applications or reintroduce any subject matter disclosed in the instant application or the subject matter of any previously or presently cancelled claim.

Claim Rejections under 35 U.S.C. §112, second paragraph

Claims 17 stands rejected under 35 U.S.C §112, second paragraph as failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Patent Office states that Claim 17 recites a “non-naturally occurring composition” which is alleged as being unclear as to the scope of the mutants of CBH. Although Applicants respectfully disagree with the Patent Office, in order to further the prosecution of the present application and Applicant’s business interests, yet without acquiescing to the Examiner’s arguments, Applicants have cancelled independent Claim 17 and dependent Claim 20.

Claim Rejections under 35 U.S.C. §103(a)

Claims 1, 3, 4 and 17 stand rejected under 35 U.S.C. §103(a) as allegedly being obvious by Takashima *et al.* (J Biotechnol 1006 Oct. 1; 50 (2-3): 137-147) in view of de Oliveira *et al.* (Nucleic Acids Research 18(3) p. 668, 1990). Specifically the Patent Office alleges that Takashima teaches a cellulase that is 99.8% identical to SEQ ID NO: 3 and 4 of the instant application i.e. only 1 amino acid is different at position 101 (Office Action at page 3). Further, the Patent Office alleges that de Oliveira teaches a polypeptide which is 99.6% identical to SEQ ID NO: 1 and that Oliveira further teach a histidine (H) residue at position 101 that is the same as instant application. In addition the Office alleges that the skilled artisan would wish to make a variant of the sequence of Tahashima by changing tyrosine (Y) with histidine (H) based on the teachings of de

Oliveria (Office Action at page 4). Applicants respectfully traverse the rejection for the following reasons.

To establish a *prima facie* case of obviousness, “the prior art reference (or references when combined” must teach all or suggest all the claim limitations.” MPEP 2143. Takashima and de Oliveira whether alone or in combination do not teach or suggest all the elements of claims, nor do they render obvious the claimed invention for the following reasons.

Takashima fails to teach the polypeptides of SEQ ID NO:3 or SEQ ID NO:4 recited in the independent claims. The Patent Office states that Takashima does not teach a histidine (H) at residue 101 but a tyrosine (Y) (Office Action at page 4). The Patent Office alleges de Oliveira teach a polypeptide which is 99.6% identical to SEQ ID NO: 1. Applicants respectfully request clarity on this point as SEQ ID NO:1 of the present application is directed to a nucleotide sequence of H. grisea CBH1.1, rather than a polypeptide. The Patent Office further states that de Oliveira teach a histidine (H) residue at position 101 that is the same as instant application. Applicants traverse and respectfully point out that polypeptides of SEQ ID NO:3 and 4 recited in the independent claims clearly show substitutions not found in Oliveira reference, for example, K (lysine) for N (asparagine) at position 17, and T (threonine) for I (isoleucine) at position 495. Takashima and de Oliveira whether alone or in combination do not teach or suggest the polypeptides of SEQ ID NO:3 or 4 recited in the independent claims, nor do they render obvious the claimed invention. The Patent Office alleges that “one skilled in the art would have been motivated to replace tyrosine residue the polypeptide of Takashima with a histidine residue as taught by de Oliveira as de Oliveira “clearly demonstrated that position 101 can alternately be a histidine residue”, wherein mutagenesis techniques can be used to replace said amino acids (Office Action at page 4). Applicants respectfully disagree and assert that the above statement does not identify any reason that would have prompted a person of ordinary skill in the art to combine elements in the way the claimed new invention does and is not sufficient to support a *prima facie* case of obvious. There is no motivation for one skilled in the art to replace any amino acids in the polypeptide of Takahima with any residues taught in de Oliveira. Applicants disagree that Oliveira provides the motivation because position 101 “can alternatively be a histidine residue”, wherein a mutagenesis technique can be used to replace said amino acid (Office Action at page 4). Clearly any amino acid of the polypeptide of Takashima could be replaced with any amino acid using mutagenesis

techniques. Applicants assert that there is clearly no motivation as de Oliveira reference teaches no more than the disclosed sequence and is devoid of any teaching or suggestion with regards to any substitutions for any of the 525 amino acids disclosed in Takashima. Thus, whether alone or in combination with the teachings of Oliveira, Takashima does not teach or render obvious the compositions of the presently claimed invention. In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. §103(a).

Claims 20 and 22-23 stand rejected under 35 U.S.C. §103(a) as allegedly being anticipated by Takashima *et al.* (J Biotechnol 1006 Oct. 1; 50 (2-3): 137-147) in view of de Oliveira (Nucleic Acids Research 18(3) p. 668, 1990) and Day (US PGPUG 2005/0277172). Applicants respectfully traverse the rejection for the following reasons.

As a preliminary matter, the rejection of Claim 20 is moot in light of canceling the claim. As discussed above, Takashima and de Oliveira whether alone or in combination do not teach or suggest the polypeptides of SEQ ID NO: 4 recited in the independent claims, nor do they render obvious the claimed invention. In addition, nowhere does Day teach or suggest the claimed compositions comprising SEQ ID NO:4. Applicants submit that Day alone or in combination with Takashima and de Oliveira also does not render obvious the claimed inventions. Accordingly, Applicants respectfully request that the rejection of Claims 22, and 23 under 35 U.S.C. §103(a) be withdrawn.

CONCLUSION

In light of the above amendments, as well as the remarks, the Applicants believe the pending claims are in condition for allowance and issuance of a formal Notice of Allowance at an early date is respectfully requested. If a telephone conference would expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (650) 846-7614.

The Commissioner is authorized to charge any fees that may be required in connection with this submission and to credit any overpayments to Deposit Account No. 07-1048 (Attorney Docket No. GC794-2).

Respectfully submitted,

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